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EXAMINER	
WORKU, NEGUSSIE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/862,623	SUZUKI ET AL.	
	Examiner	Art Unit	
	Negussie Worku	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 May 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 May 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action: A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi (USP 5,239,393).

With respect to claim 1, Takeuchi discloses an image sensing apparatus (as shown by fig 4 and 5) which can be connected to an external device (host computer of fig 5) and receives power from the external device, (since interruption/resumption command given by host computer of fig 5, power is received from the host computer), stops the external device having a suspend/resume function of storing, see (col.4, lines 45-55) for a program under processing, see (col.5, lines 1-5), a state necessary for execution of the processing in memory (buffer 25 of fig 5) and re-executing the interrupted processing of the program on the basis of stored contents, see (col.4, lines 55-57) comprising: image sensing means (image sensor 21 of fig 5) for converting an optical image of an object into an electrical image signal, see (col.3, lines 55-

60); and control means (CPU 27 of fig 5) for, when the external device (host computer, shown by fig 5) is set in a suspend state (when host stops receiving data from mage sensing device 21 of fig 5) during image sensing, stopping operation of at least a part of said image sensing means (when image sensing by image sensor 21 is suspended by the host computer due to insufficient buffer memory, the host computer in stand by state, impossible to process data, see col.4, lines 45-55), and resetting a predetermined portion of said image sensing apparatus to a predetermined initial state, see (col.4, lines 33-43), in response to resumption of the external device (when the buffer memory become empty or conditions otherwise permits, a reading resumption command is given by the host computer and reading is resumed from such point, and host computer (external device) also resumed to receive data read by image sensor and transmitted from image sensor 21 of fig 4, see col.4, lines 40-44).

With respect to claim 2, Takeuchi teaches or discloses the apparatus (as shown by fig 4 and 5), wherein said control means (host computer (CPU 27 of fig 5) resets said image sensing means (image sensor 21 of fig 5) to predetermined initial state in response to resumption of the external device, (when the buffer memory become empty or conditions otherwise permits, a reading resumption command is given by the host computer and reading is resumed from such point, and host computer (external device) also resumed to receive data read by image sensor and transmitted from image sensor 21 of fig 4, see col.4, lines 40-44)

With respect to claim 3, Takeuchi teaches or discloses the apparatus (as shown in fig 4 and 5) further comprising setting means (selector 26 of fig 5, is changed over by CPU 27 to return to normal state) for setting a reference position, see (col.5, lines 30-35) where image reading by said image sensing means (image sensor 21 of fig 5) is started in response to resumption of the external device, (host computer shown by fig 5, resume operation for receiving data from the image sensing device 21 of fig 5), wherein said control means (host computer (CPU27) of fig 5) controls said image sensing means (image sensing device 21 of fig 5) to start image reading from the reference position (the image data in the last line having been read prior to the interruption in first transferred from the buffer memory 25 to host computer, see col.5, lines 30-35) in response to resumption of the external device (host computer of fig 5).

With respect to claim 4,Takeuchi teaches or discloses the apparatus (as shown by fig 4 and 5), wherein the predetermined initial state (home position, see col.4, lines 34-38) is a state wherein an optical unit (lamp unit and mirror 6 are set in home position) in said image sensing means (21 of fig 4 or 5) is at a predetermined position, see (col.4, lines 34-38).

With respect to claim 5, Takeuchi discloses the apparatus (as shown in fig 4 and 5), further comprising a motor (a pulse motor 9 of fig 5) as a driver for moving the optical unit, (lamp unit 5, mirror 6 of fig 4A and 4B, see (col.4, lines 10-13) wherein said control means (CPU 27 of fig 5, see col.5, lines 1-8) resets

said motor to an initial state in response to resumption of the external device (host computer shown by fig 5, see col.6, lines 17-25).

With respect to claim 6, Takeuchi discloses the apparatus (as shown by fig 4-5), further comprising memory, (memory 25 by CPU 27 to normal state, see col.5, lines 30-35) wherein said control means (CPU 27 of fig 5) resets said memory to an initial state in response to resumption of the external device (Host computer shown by fig 5, see col.5, lines 30-35).

With respect to claim 7, Takeuchi discloses the apparatus (shown by fig 4 and 5), wherein said control means (CPU 27 of fig 5) resets at least one of home position detection, (pulse motor 9 of fig 5, used as position control, see col.4, lines 17-20) lamp adjustment, (CPU 27 of fig 5, for shading compensation, see col.4, lines 65-68) and shading data acquisition to the predetermined initial state in response to resumption of the external device (host computer by fig 5, see col.5, lines 25-30).

With respect to claim 8, Takeuchi discloses the apparatus (as shown in fig 5), further comprising operation means, (host computer gives interruption/resumption command, see col.5, lines 1-5) wherein when the external device (host computer by fig 5) is set in the suspend state, (buffer full state or host computer stops receiving image from the sensor (busy state, computer processing the image] when the external device is resumed (when

computer resume operation start receiving image from image sensor) in accordance with predetermined operation by said operation means (stand by command by the host computer of fig 5, col.4, lines 44-50).

With respect to claim 9, Takeuchi disclose the apparatus (as shown in fig 4 and 5), further comprising state detection means, (CPU 27 of fig 5), wherein when the external device is set in the suspend state, (the host computer of fig 5, in a suspend state when it is on stand by state or when it stops receiving data from the sensor) the external device is resumed (host computer of fig 5, is resumed when it starts to receive data from reading device 21 of fig 5) in accordance with detection of a predetermined state by said state detection means (CPU 27 as a detection means).

With respect to claim 10, Takeuchi discloses the apparatus (as shown in fig 4 and 5), further comprising notification means (CPU 27 by stoping the out put of driving pulse to the drive circuit 29 of fig 5, notify the initial state (home position of the image sensor 21 of fig 4 or 5) for notifying the external device (host of fig 5) of the predetermined initial state, see (col.4, lines 33-37).

With respect to claim 11, Takeuchi discloses a control method for an image sensing apparatus (as shown by fig 4 and 5) which can be connected to an external device (host computer of fig 5), receives power from the external device, (since interruption/resumption command given by host computer of fig 5,

to the image sensor 21 of fig 5, power can be received from the host computer of fig 5, which is as an external device), and has image sensing means (image sensor 21 of fig 5) for converting an optical image of an object into an electrical image signal, see (col.3, lines 55-60); the external device having a suspend/resume function of storing, see (col.4, lines 45-55) for a program under processing, see (col.5, lines 1-5), a state necessary for execution of the processing in memory (buffer 25 of fig 5) and re-executing the interrupted processing of the program on the basis of stored contents, see (col.4, lines 55-57) comprising: the stop steps of, when the external device (host computer, shown by fig 5) is set in a suspend state (when host stops receiving data from mage sensing device 21 of fig 5) during image sensing, stopping operation of at least a part of said image sensing means, (when image sensing by image sensor 21 is suspended by the host computer due to insufficient buffer memory, the host computer in stand by state, impossible to process data, see col.4, lines 45-55); and the reset step of resetting a predetermined portion of said image sensing apparatus to a predetermined initial state, see (col.4, lines 33-43), in response to resumption of the external device, (when the buffer memory become empty or conditions otherwise permits, a reading resumption command is given by the host computer and reading is resumed from such point, and host computer (external device) also resumed to receive data read by image sensor and transmitted from image sensor 21 of fig 4, see col.4, lines 40-44).

With respect to claim 12, Takeuchi discloses the method (as shown in fig 4 and 5), wherein, in the reset step, image sensing means (image sensor 21 of fig 5) is rest to a predetermined initial state in response to resumption of the external device, (when the buffer memory become empty or conditions otherwise permits, a reading resumption command is given by the host computer and reading is resumed from such point, and host computer (external device) also resumed to receive data read by image sensor and transmitted from image sensor 21 of fig 4, see col.4, lines 40-44)

With respect to claim 13, Takeuchi teaches or discloses the method (as shown in fig 4 and 5) further comprising setting step (selector 26 of fig 5, is changed over by CPU 27 to return to normal state) for setting a reference position, see (col.5, lines 30-35) where image reading by said image sensing means (image sensor 21 of fig 5) is started in response to resumption of the external device, (host computer shown by fig 5, resume operation for receiving data from the image sensing device 21 of fig 5); and the control step (host computer (CPU27) of fig 5) controls said image sensing means (image sensing device 21 of fig 5) to start image reading from the reference position in response to resumption of external device (the image data in the last line having been read prior to the interruption in first transferred from the buffer memory 25 to host computer, see col.5, lines 30-35) in response to resumption of the external device (host computer of fig 5).

With respect to claim 14,Takeuchi teaches or discloses the method (as shown by fig 4 and 5), wherein the predetermined initial state (home position, see col.4, lines 34-38) is a state wherein an optical unit (lamp unit and mirror 6 are set in home position) in said image sensing means (21 of fig 4 or 5) is at a predetermined position, see (col.4, lines 34-38).

With respect to claim 15, Takeuchi discloses the method (as shown in fig 4 and 5), further comprising a motor (a pulse motor 9 of fig 5) as a driver for moving the optical unit, (lamp unit 5, mirror 6 of fig 4A and 4B, see (col.4, lines 10-13), and in the reset step, the motor is reset to an initial state in response to resumption of the external device (host computer shown by fig 5, see col.6, lines 17-25).

With respect to claim 16, Takeuchi discloses the method (as shown by fig 4-5), wherein the image sensing apparatus (21 of fig 5) further comprising memory, (memory 25 by CPU 27 to normal state, see col.5, lines 30-35) and in the reset step, the is to an initial state in response to resumption of the external device (Host computer shown by fig 5, see col.5, lines 30-35).

With respect to claim 17, Takeuchi discloses the method (shown by fig 4 and 5), wherein, in the reset step, at least one of home position detection, (pulse motor 9 of fig 5, used as position control, see col.4, lines 17-20) lamp adjustment, (CPU 27 of fig 5, for shading compensation, see col.4, lines 65-68) and shading

data acquisition to the predetermined initial state in response to resumption of the external device (host computer by fig 5, see col.5, lines 25-30).

With respect to claim 18, Takeuchi discloses the method (as shown in fig 5), wherein the image sensing apparatus (shown fig 4 and 5) further comprises the step of operation means, (host computer gives interruption /resumption command, see col.5, lines 1-5), and the method further comprises the step of when the external device (host computer by fig 5) is set in the suspend state, (buffer full state or host computer stops receiving image from the sensor (busy state, computer processing the image] when the external device is resumed (when computer resume operation start receiving image from image sensor) in accordance with predetermined operation by said operation means (stand by command by the host computer of fig 5, col.4, lines 44-50).

With respect to claim 19, Takeuchi disclose the apparatus (as shown in fig 4 and 5), further comprising state detection means, (CPU 27 of fig 5), and the method further comprise the step of, wherein when the external device is set in the suspend state, (the host computer of fig 5, in a suspend state when it is on stand by state or when it stops receiving data from the sensor) resume the external device (host computer of fig 5, is resumed when it starts to receive data from reading device 21 of fig 5) in accordance with detection of a predetermined state by said state detection means (CPU 27 as a detection means).

With respect to claim 20, Takeuchi discloses the method (as shown in fig 4 and 5), further comprising notification step of (CPU 27 by stoping the out put of driving pulse to the drive circuit 29 of fig 5, notify the initial state (home position of the image sensor 21 of fig 4 or 5) for notifying the external device (host of fig 5) of the predetermined initial state, see (col.4, lines 33-37).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 21-53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi (USP 5239393) in view of Kagami et al, (USP 5,532,844).

With respect to claim 21, Takeuchi discloses a control method for an image sensing apparatus (as shown by fig 4 and 5) which can be connected to an external device (host computer of fig 5), receives power from the external device, (since interruption/resumption command given by host computer of fig 5, to the image sensor 21 of fig 5, power can be received from the host computer of fig 5, which is as an external device), comprising: and has image sensing means (image sensor 21 of fig 5) for converting an optical image of an object into an electrical image signal, see (col.3, lines 55-60); control means (host computer of

fig 5),for controlling to perform predetermined operation upon detecting that the external device is set in a suspend state (receiving data from image sensor 21,in a stand by state) of external device (host computer fig 5).

Takeuchi dose not disclose a backup battery for, when the external device is set in the suspend state, storing power necessary to perform the predetermined operation by said control means before the image sensing apparatus is set in the suspend state.

Kagami et al. in the same area of image reading and data processing discloses a backup battery (backup battery 72 of fig 3) for, when the external device (computer (PC) of fig 3) is set in the suspend state, storing power necessary to perform the predetermined operation by said control means (controller 40 of fig 3) before the image sensing apparatus (IR scanner of fig 3) is set in the suspend state, see col.8, lines 1-5.

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the image reading apparatus of Takeuchi to include: a backup battery for, when the external device is set in the suspend state, storing power necessary to perform the predetermined operation by said control means before the image sensing apparatus is set in the suspend state.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the image reading apparatus of Takeuchi by the teaching of Kagami et al. for the reason that, it would have been allowed users to backup a power outage from the main power supply during

image reading or processing is in progress, and to protect the unsaved data from loosing.

With respect to claim 22,Takeuchi discloses the apparatus (as shown in fig 3-4), wherein the predetermined operation is operation of setting said image sensing apparatus (21 of fig 5) in a predetermined initial state, (the operation of image sensor 21 of fig 5, is controlled by host computer in conjection with CPU 27 of fig 5, see col.4, lines 33-38).

With respect to claim 23, Takeuchi discloses the apparatus (as shown in fig 3 and 4), wherein the predetermined operation is operation of moving an optical unit (shown in fig 4a and 4b) in said image sensing means (21 of fig 1) to predetermined position, see (col.4, lines 33-38).

With respect to claim 24, Takeuchi discloses the apparatus (as shown in fig 3 and 4), further comprising a motor (pulse motor 9 of fig 5) as a driver for moving the optical unit, (fig 4A) wherein the predetermined operation is operation of resetting said motor to an initial state, see (col.4, lines 33-38)

With respect to claim 25, Takeuchi discloses the apparatus (as shown I fig 4 and 5), further comprising memory, (buffer 25 of fig 5) wherein the predetermined operation is operation of resetting said memory to an initial state, see (col.4, lines 33-38).

With respect to claim 26, Takeuchi discloses the apparatus (as shown in fig 3 and 4), wherein a predetermined operation is operation of resetting at least one of home position detection, (pulse motor 9 of fig 5, used as position control, see col.4, lines 17-20) lamp adjustment, (CPU 27 of fig 5, for shading compensation, see col.4, lines 65-68) and shading data acquisition to the predetermined initial state, see (col.4, lines 65-68).

With respect to claim 27, Takeuchi discloses the apparatus (as shown in fig 3 and 4), further comprising operation means, (CPU 27 of fig 5, stops the output of driving pulse see col.5, lines 24-25), wherein when the external device (host computer of fig 5) is set in the suspend state, (stop transmission of data to the host computer and tape stand-by state to the host, see col.4, line 50-55) the external device (host of fig 5) is resumed in accordance with predetermined operation by said operation means, see (col.4, lines 54-57).

With respect to claim 28, Takeuchi discloses the apparatus (as shown in fig 3 and 4), further comprising state detection means, (host computer of fig 5) wherein when the external device is set in the suspend state, see (col.4, lines 50-55) the external device (host of fig 5) is resumed in accordance with detection of predetermined state by said state detection means, see (col.4, lines 54-58).

With respect to claim 29, Takeuchi discloses an image sensing apparatus (image sensor shown by fig 4 and 5) connectable to an external device (host

computer of fig 5) having a suspend/resume function, see (col.5, lines 1-5) comprising: operation means, (resumption / interruption command from the host computer, see col.5, lines2-5); and control means (CPU 27 of fig 5) for resuming the external device in accordance with predetermined operation by said operation means, see (col.4, lines 55-58).

With respect to claim 30, Takeuchi discloses the apparatus (as shown in fig 4 and 5), wherein the predetermined operation is operation of instructing image sensing, see (col.5, lines 1-5).

With respect to claim 31, Takeuchi discloses an image sensing (21 of fig 5) apparatus (as shown in fig 4 and 5) connectable to an external device (host computer of fig 5) having a suspend/resume function, see (col.4, lines 45-55) comprising: state detection means (state such as sand-by, busy state detect by CPU 27 of fig 5, see col.4, lines 43-55); and control means (CPU 27, host computer of fig 5) for resuming the external device in accordance with detection of a predetermined state by said state detection means, see (col.4, line 45-55).

With respect to claim 32, Takeuchi discloses the apparatus (as shown in fig 4 and 5), wherein the predetermined state is a state wherein an original (original P of fig 4B) is placed at a predetermined position (platen glass 3 of fig 4B, see col.3, lines 55-60).

With respect to claim 33, Takeuchi discloses an image sensing apparatus (as shown in fig 4-5) connected to an external device (host computer of fig 5) having a suspend/resume function and driven upon receiving power from the external device, (since interruption/resumption command given by host computer of fig 5, power is received from the host computer which is an external device), comprising control means (CPU 27 of fig 5) for, when the external device (host of fig 5) is set in a suspend state, (host on a stand-by state, see (col.4, lines 45-55) stopping said image sensing apparatus, (image sensor 21 of fig 5) and when the external device is resumed, (when the buffer empty host starts to process the image received from image sensor 21 of fig 5) controlling to perform predetermined operation upon receiving power from the external device, (since interruption/resumption command given by host computer of fig 5, power transmitted to the image sensor from the host computer).

With respect to claim 34, Takeuchi discloses the apparatus (as shown in fig 4 and 5), wherein the predetermined operation is operation of setting said image sensing apparatus (21 of fig 5) in a predetermined initial state, (the operation of image sensor 21 of fig 5, is controlled by host computer in conjection with CPU 27 of fig 5, see col.4, lines 33-38).

With respect to claim 35, Takeuchi discloses a control method for an image sensing apparatus (as shown by fig 4 and 5) connected to an external device having a suspend/resume function (host computer of fig 5), driven upon

receives power from the external device, (since interruption/resumption command given by host computer of fig 5, to the image sensor 21 of fig 5, power can be received from the host computer of fig 5, which is as an external device), comprising: and having image sensing means (image sensor 21 of fig 5) for converting an optical image of an object into an electrical image signal, see (col.3, lines 55-60); comprising the steps of: control means (host computer of fig 5),for controlling to perform predetermined operation upon detecting that the external device is set in a suspend state (receiving data from image sensor 21,in a stand by state) of external device (host computer fig 5),

Takeuchi dose not disclose storing power necessary to perform the predetermined operation by said control means before the image sensing apparatus is set in the suspend state.

Kagami et al. in the same area of image reading and data processing discloses a backup battery (backup battery 72 of fig 3) for, when the external device (computer (PC) of fig 3) is set in the suspend state, storing power necessary to perform the predetermined operation by said control means (controller 40 of fig 3) before the image sensing apparatus (IR scanner of fig 3) is set in the suspend state, see col.8, lines 1-5.

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the image reading apparatus of Takeuchi to include: storing power necessary to perform the predetermined operation by said control means before the image sensing apparatus is set in the suspend state.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the image reading apparatus of Takeuchi by the teaching of Kagami et al. for the reason that, it would have been allowed users to backup a power outage from the main power supply during image reading or processing is in progress, and to protect the unsaved data from loosing.

With respect to claim 36, Takeuchi discloses the method (as shown in fig 4 and 5), wherein the predetermined operation is operation of setting said image sensing apparatus (21 of fig 5) in a predetermined initial state, (the operation of image sensor 21 of fig 5, is controlled by host computer in conjection with CPU 27 of fig 5, see col.4, lines 33-38).

With respect to claim 37,Takeuchi teaches or discloses the method (as shown by fig 4 and 5), wherein the predetermined operation is operation of moving an optical unit (lamp unit and mirror 6 are set in home position) in the image sensing means (21 of fig 5, as shown in fig 4b and 5) to a predetermined position, see (col.4, lines 34-38).

With respect to claim 38, Takeuchi discloses the method (as shown in fig 4 and 5), wherein the image sensing apparatus further comprises a motor (a pulse motor 9 of fig 5) as a driver for moving the optical unit, (lamp unit 5, mirror

6 of fig 4A and 4B, see col.4, lines 10-13), and the predetermined operation is operation of resetting the motor to an initial state, see col.6, lines 17-38.

With respect to claim 39, Takeuchi discloses the method (as shown in fig 3 and 4), wherein the image sensing apparatus (image sensor 21 of fig 5) further comprises memory, (buffer 25 of fig 5) and the predetermined operation is operation of resetting the memory to an initial state, (buffer which temporarily stores the received data is full--stand-by state--when the buffer empty resetting the memory to initial state, see (col.4, lines 45-58).

With respect to claim 40, Takeuchi discloses the method (shown by fig 4 and 5), wherein predetermined operation is operation of resetting at least one of home position detection, (pulse motor 9 of fig 5, used as position control, see col.4, lines 17-20) lamp adjustment, (CPU 27 of fig 5, for shading compensation, see col.4, lines 65-68) and shading data acquisition to the predetermined initial state (host computer by fig 5, see col.5, lines 25-30).

With respect to claim 41, Takeuchi discloses the method (as shown in fig 5), further comprising operation means, (host computer gives interruption/resumption command, see col.5, lines 1-5), and a method further comprises the step of, when the external device (host computer by fig 5) is set in the suspend state, (when buffer is in full state the host computer stops receiving image from the sensor (busy state, computer processing the image] when the

external device is resumed (when computer resume operation start receiving image from image sensor) in accordance with predetermined operation by said operation means (stand by command by the host computer of fig 5, col.4, lines 44-50).

With respect to claim 42, Takeuchi disclose the method (as shown in fig 4 and 5), further comprising state detection means, (CPU 27 of fig 5), and the method further comprises the step of when the external device is set in the suspend state, (the host computer of fig 5, in a suspend state when it is on stand by state or when it stops receiving data from the sensor), resuming the external device is resumed (host computer of fig 5, is resumed when it starts to receive data from reading device 21 of fig 5) in accordance with detection of a predetermined state by said state detection means (CPU 27 as a detection means).

With respect to claim 43, Takeuchi discloses a control method an image sensing apparatus (as shown in fig B and 5) which can be connected to an external device (host computer fig 5), having a suspend/resumption function (host computer gives interruption/resumption command, see col.5, lines 1-5), and has operation means, comprising the step of resuming the external device in accordance with predetermined operation by the operation means (stand by command by the host computer of fig 5, col.4, lines 44-50).

With respect to claim 44, Takeuchi discloses the method (shown by fig 4 and 5), wherein the predetermined operation is operation of instructing image sensing (image reading resumption command from the host computer of fig 5, see (col.6, lines 19-25, and col.1, lines 40-45).

With respect to claim 45, Takeuchi discloses a control method for an image sensing apparatus (image sensor 21 as shown in fig 4 and 5) which can be connected to an external device (host computer of fig 5) having a suspend/resume function and has state detection means, (CPU 27 of fig 5), comprising the step of resuming the external device (host computer of fig 5, is resumed when it starts to receive data from reading device 21 of fig 5) in accordance with detection of a predetermined state by said state detection means (CPU 27 of fig 5).

With respect to claim 46, Takeuchi discloses the method (as shown in fig 4 and 5), wherein the predetermined state is a state wherein an original is placed at a predetermined position, (original P of fig 4B, placed on platen glass 3, is exposed and scanned by scanning mechanism, as shown in fig 4b, see c ol.3, lines 55-60).

With respect to claim 47, Takeuchi discloses a control method (as shown in fig 4 and 5) for an image sensing apparatus (image sensor 21 of fig 5) connected to an external device (host computer of fig 5) having a

suspend/resume function and driven upon receiving power from the external device, (since interruption/resumption command given by host computer of fig 5, power is received from the host computer), comprising the steps of: stopping the image sensing apparatus when the external device is set in a suspend state, (image sensor is suspended of reading and transmitting the image to host computer for processing when the buffer 25 of fig 5 is full; and performing predetermined operation upon receiving power from the external device in response to resumption of the external device, (when resumption command is received from the host, operation is started power is restored to image sensor 21 of fig 5, see col.4, lines 35-55).

With respect to claim 48, Takeuchi discloses the method (as shown in fig 4 and 5), wherein the predetermined operation is operation of setting the image sensing apparatus in a predetermined initial state, see (home position, see col.4, lines 33-43).

With respect to claim 49, Takeuchi discloses computer program product (*a host computer of fig 5, a series of controlling the transfer of image data issued from the scanner to the host computer, a program programmed in the host computer PC, a resumption/interruption command given by host computer, see col.5, lines 1-10)* comprising a computer usable medium (ROM 28 of fig 5) having computer readable program code means (instruction given by CPU 27,according to the reading interruption/resumption command given by the host computer, see

col.5, lines 1-5) embodied in said medium for controlling an image sensing apparatus (image sensor 21 of fig 5) which can be connected to an external device, (host computer of fig 5) receives power from the external device, and has image sensing means (21 of fig 5) for converting an optical image of an object into an electrical image signal, see (col.4, lines 35-55) the external device having a suspend/resume function of storing, see (col.5, lines 1-5) for a program under processing, (image processing parameters stored in RAM 28 of fig 5) a state necessary for execution of the processing in memory and re-executing the interrupted processing of the program on the basis of stored contents, said product including: first computer readable program code means (first code "interruption" command *host computer of fig 5, a series of controlling the transfer of image data issued from the scanner to the host computer, a program programmed in the host computer PC, an interruption command given by host computer, see col.5, lines 1-10*) for, when the external device (host computer of fig 5) is set in a suspend state during image sensing, (when storage full condition) stopping operation of at least a part of the image sensing means (sensor 21 of fig 5); and second computer (a "resumption command" as second program code, *host computer of fig 5, a series of controlling the transfer of control data issued from the host computer, a program programmed in the host computer PC, a resumption command given by host computer, see col.5, lines 1-10)* readable program code means for resetting a predetermined portion of the image sensing apparatus to a predetermined initial state, see (col.4, lines 33-40) in response to resumption of the external device (host computer of fig 5).

With respect to claim 50, Takeuchi discloses computer program product (a host computer of fig 5, a series of controlling the transfer of image data issued from the scanner to the host computer, a program programmed in the host computer PC, a resumption/interruption command given by host computer, see col.5, lines 1-10) comprising a computer usable medium (ROM 28 of fig 5) having computer readable program code means (instruction given by CPU 27, according to the reading interruption/resumption command given by the host computer, see col.5, lines 1-5) embodied in said medium for controlling an image sensing apparatus (image sensor 21 of fig 5) which can be connected to an external device, (host computer of fig 5), having a suspend/resume function, see col.5, lines 1-5), driven upon receiving power from the external device, and having image sensing means (image sensor 21 of fig 5) for converting an optical image of an object into an electrical image signal, see (col.4, lines 45-55) said product including: first computer readable program code means (interruption code from the host, for controlling a predetermined operation of the scanner 21 of fig 1) for controlling to perform predetermined operation upon detecting that the external device is set in a suspend state, see (col.5, lines 1-5); and second computer readable program code means (resumption code from the host computer of fig 5), for storing, when the external device is set in the suspend state, (when buffer full, host in a stand by state receive data from the image sensor (21 of fig 5), power necessary to perform the predetermined operation by said first computer

(host computer provides power to scanner 21 of fig 5) readable code means before the image sensing apparatus is set in the suspend state.

With respect to claim 51, Takeuchi discloses computer program product (a host computer of fig 5, a series of controlling the transfer of image data issued from the scanner to the host computer, a program programmed in the host computer PC, a resumption/interruption command given by host computer, see col.5, lines 1-10) comprising a computer usable medium (ROM 28 of fig 5) having computer readable program code means (instruction given by CPU 27, according to the reading interruption/resumption command given by the host computer, see col.5, lines 1-5) embodied in said medium for controlling an image sensing apparatus (image sensor 21 of fig 5) which can be connected to an external device, (host computer of fig 5), having a suspend/resume function, see col.5, lines 1-5), and has operation means, (image sensor operation controlled by host of fig 5), said product including: computer readable program code means (*a host* computer of fig 5, a series of controlling the transfer of image data issued from the scanner to the host computer, a program programmed in the host computer PC, a resumption/interruption command given by host computer, see col.5, lines *1-10)* for resuming the external device (host 5 of fig 5)in accordance with predetermined operation by the operation means (image sensor operation controlled by host of fig 5).

With respect to claim 52, Takeuchi discloses computer program product (a host computer of fig 5, a series of controlling the transfer of image data issued from the scanner to the host computer, a program programmed in the host computer PC, a resumption/interruption command given by host computer, see col.5, lines 1-10) comprising a computer usable medium (ROM 28 of fig 5) having computer readable program code means (instruction given by CPU 27, according to the reading interruption/resumption command given by the host computer, see col.5, lines 1-5) embodied in said medium for controlling an image sensing apparatus (image sensor 21 of fig 5) which can be connected to an external device, (host computer of fig 5), having a suspend/resume function, see col.5, lines 1-5), and has state detection means, (CPU 27 of fig 5, detect the states of the system of fig 5), said product including: computer readable program code means (a host computer of fig 5, a series of controlling the transfer of image data issued from the scanner to the host computer, a program programmed in the host computer PC, a resumption/interruption command given by host computer, see col.5, lines 1-10) for resuming the external device (host computer of fig 5) in accordance with detection of a predetermined state by the state detection means (27 of fig 5).

With respect to claim 53, Takeuchi discloses computer program product (a host computer of fig 5, a series of controlling the transfer of image data issued from the scanner to the host computer, a program programmed in the host computer PC, a resumption/interruption command given by host computer, see

col.5, lines 1-10) comprising a computer usable medium (ROM 28 of fig 5) having computer readable program code means (instruction given by CPU 27, according to the reading interruption/resumption command given by the host computer, see col.5, lines 1-5) embodied in said medium for controlling an image sensing apparatus (image sensor 21 of fig 5) which can be connected to an external device, (host computer of fig 5), having a suspend/resume function, see col.5, lines 1-5), and has state detection means, (CPU 27 of fig 5, detect the states of the system of fig 5), said product including: computer readable program code means (a host computer of fig 5, a series of controlling the transfer of image data issued from the scanner to the host computer, a program programmed in the host computer PC, a resumption/interruption command given by host computer, see col.5, lines 1-10), for stopping the image sensing apparatus (sensor 21 of fig 5) when the external device (host computer of fig 5) is set in a suspend state product (a host computer of fig 5, a series of controlling the transfer of image data issued from the scanner to the host computer, a program programmed in the host computer PC, a resumption/interruption command given by host computer, see col.5, lines 1-10); and second computer readable program code means (first code "resumption" command *host computer of fig 5, a series of controlling the transfer of image data issued from the scanner to the host computer, a program programmed in the host computer PC, an resumption command given by host computer, see col.5, lines 1-10*) for performing predetermined operation upon receiving power from the external device (host

computer fig 5) in response to resumption of the external device (host computer of fig 5).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Negussie Worku whose telephone number is 305-5441. The examiner can normally be reached on 7am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on 703-305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Negussie Worku
02/20/05

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